

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
ФАКУЛЬТЕТ ІНОЗЕМНОЇ ФІЛОЛОГІЇ
ТА СОЦІАЛЬНИХ КОМУНІКАЦІЙ**



**СОЦІАЛЬНО-ГУМАНІТАРНІ АСПЕКТИ
РОЗВИТКУ СУЧАСНОГО СУСПІЛЬСТВА**

**МАТЕРІАЛИ ВСЕУКРАЇНСЬКОЇ НАУКОВОЇ КОНФЕРЕНЦІЇ ВИКЛАДАЧІВ,
АСПІРАНТІВ, СПІВРОБІТНИКІВ ТА СТУДЕНТІВ**

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On the basis of experimental data the main modes of the_vortex weighted layer have been identified. The nature of the granules in each mode was also studied. These studies make it possible to determine the main factors, which affect the development of a swirl flow in the working fluid, to predict the trajectory of the granules in the working space of the granulator, to choose the optimal residence time of the dispersed phase.

COMPARISON OF ENERGY LOSSES IN DESIGNS OF HERMETIC PUMPS

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Modern chemical and oil production is characterized by stringent environmental regulations. Most of the equipment in the technological cycle must be hermetic. Serious problem is the energy efficiency of equipment.

The purpose of the work is to analyze the energy losses characterizing the typical designs of hermetic pumping units.

The most popular typical design of hermetic pumping units are a sealed pump, a canned motor pump, a pump with a wet stator and a pump with a magnet coupling.

A sealed pump is not completely hermetic and is characterized by the loss of energy in friction in the seals and loss of magnetic energy in the gap electric motor.

A canned motor pump is characterized by the loss of energy in friction of fluid in the gap between a rotor and a stator of the motor. However, the biggest losses of energy are in the motor can.

A pump with a wet stator is characterized by loss of energy in friction of fluid in the gap between a rotor and a stator and the loss of magnetic energy in the electric motor gap.

A pump with a magnet coupling is characterized by the loss of energy in friction of fluid in the gap between a rotor and a stator in the magnet coupling. However, the biggest losses of energy are in the magnet coupling can. In

addition, there are losses of magnetic energy in the electric motor gap and a magnet coupling.

Therefore, the most effective completely hermetic pump is the pump with a wet stator, because there is no can losses. So, this type of design is promising to create new hermetic pumps.

LAW ENFORCEMENT AGENCIES REFORMING IN TERMS OF PROVIDING STATE FINANCIAL AND ECONOMIC SECURITY

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The economic and financial security of the state are indicators primarily showing the level of national security, that is, the state's ability to resist internal and external threats in the financial and economic spheres. However, today the situation in Ukraine is characterized not only with the high level of administrative and criminal offenses in the financial and economic spheres, that results in low level of economic and financial security of the state; but also with inability of existing law enforcement agencies aimed on identifying, investigating and terminating offenses in these spheres, to counteract the growth of the financial and economic crimes.

According to the Law of Ukraine "On state protection of court employees and law enforcement agencies" from 23.12.1993, the law enforcement agencies are organs of public prosecutor's office, internal affairs, security service, the Military Service of the Armed Forces of Ukraine, the National Anti-Corruption Bureau of Ukraine, agencies of state boundary guard, agencies of profit and collection, penal institutions, remand centers, agencies of state financial control, the state forest protection and other agencies engaged in law enforcement or having law enforcement functions.